

NASA ALLSTAR Project

Aeronautics Learning Laboratory for Science, Technology, and Research (ALLSTAR) http://www.allstar.fiu.edu/

7N-80 376476

Year 3 Final Report

July 1, 1997 - June 30, 1998

Dr. Cesar Levy
Dr. M.A. Ebadian
Florida International University
Mechanical Engineering Department
Miami, FL 33199

August 15, 1998

Contract #: NCC2-917

e-mail: levy@eng.fiu.edu

NASA ALLSTAR PROGRAM

Annual Report: 1997-1998

MILESTONE ACCOMPLISHMENTS

The July '97-June '98 grant year was a busier than the pervious year for ALLSTAR.

We finished the material development of Level 1, Level 2 and most of Level 3. We created three new galleries, one of streaming videos enabling the user to select his/her appropriate speed of Internet connectivity for better performance. The second gallery on NASA's X-series aircraft and the third is on F-series aircraft.

We also completed the placement and activation of all thirteen kiosks. We added one more kiosk over the number suggested in the proposal at Baker Aviation High School – a Dade County Public School for special aviation programs. We felt that the goals of this school matched ALLSTAR's goals and that the placement of the kiosk would better help the local students become interested in the Aviation and Aeronautics field.

We continue to work on the development of our "Teacher Resource Guide to ALLSTAR material" in which we tied our material into the national and Florida State standards. We finished the Florida Sunshine State standards, getting positive feedback from local and other educators who use the material on a regular basis.

We had another successful workshop on October 29th, 1997. We introduced the ALLSTAR website and kiosk to about twenty science and history teachers from Dade County Public Schools (DCPS). Most teachers were from middle schools, although we had some from elementary schools also. We provided several demonstrations of the ALLSTAR material to local schools in the Dade County Public Schools (DCPS) system. We used the ALLSTAR material with FIU's summer immersion program for FLAME students. This program includes a high number of minority students interested in science and engineering. We also presented the material at National Science Teachers Association (NSTA) and National Congress on Aviation and Space Education (NCASE) conferences and will be presenting the material at the Southeast Florida Aviation Consortium (SEFAC). We provided two on-site workshops in the NSTA conference with total attended of about 70 teachers.

The BBS was converted to an on-line discussion forum with a unique section on Blacks in Aviation. Prime Technologies coordinated with NASA LaRC and the Teacher Resource Centers (TRCs) for scale-up of ALLSTAR and performed live demonstrations of the software in schools and at conventions.

The following sections detail the monthly actions of the ALLSTAR team to meet its milestones and are extracted from the monthly reports.

July 1997

July brought a new challenge with the FLAME (Florida's Action for Minorities In Engineering) students. The participating FLAME students were sixth and seventh graders from twelve different schools around Dade County (most of them, schools with the ALLSTAR existing Kiosks). The students were invited to the Engineering Information Center Lab. Level 1 History was completed for this event. Dr. Cesar Levy and Mr. Yair Levy demonstrated the site. Most students were enthusiastic and demonstrated sincere interest in our program.

Dr. Cesar Levy, and Mr. Yair Levy had a meeting with Miami Dade Community College on July 25th, regarding their progress of Level 3 material. In the meeting, the MDCC Team explained their milestones for the next few months.

We converted the video files to streaming video files. History of Aeronautics - Level 1 review was completed and uploaded to the public site, which finalized all three parts for Level 1. We received a steep increase in hits to those pages after posting it in the "What's New" page.

Prime Technologies added several new topic areas including "Advanced Subsonic", "General Aviation" and "Flight Safety" to the SCALEUP application as a result of feedback obtained during the NASA ALLSTAR Marketing Plan Meeting. Content was added to these sections. Prime Technologies have been working extensively to edit the multi-media content (e.g. video clips) to fit on one CD-ROM, which was scheduled for distribution to selected schools on a trial basis. In addition, they analyzed the data obtained from users via the ALLSTAR website.

August 1997

This month we ordered the National Science Education Standards book from National Academy Press. We also ordered the package from National Council of Teachers of Mathematics.

We spoke to Pat A. Link (out of Dr. Massenberg's office) from Office of Education - LaRC about the EDCATS forms. Since our activities are mainly education over the Internet, we cannot force the users to answer EDCATS. The compromise reached after speaking to Dr. B.J. Bluth and Pat Link is that we can complete the Program session report for each of our one-day teacher workshop, and FLAME student sessions.

We created a questionnaire that was sent via e-mail to about 220 users for comments about our site. We received 32 back as indicating "unknown user or host name".

Material development includes Level 3 material that is on going development with the FIU team to create more than twenty pages of text to the Hydraulics chapter under Principles of Aeronautics - level 3. We developed the graphics files for the equations to this section. We also created animations and interactive shockwave files for that text.

We completed the conversion of the video files to streaming video files. Another eighty bibliography files were created from the San Diego Aerospace Museum Educational Materials, were reviewed and posted to the public site.

Kiosks: Another kiosk was shipped this month to Hialeah-Miami Lakes Senior High school.

Prime Technologies completed editing the multi-media content (e.g., video clips) of the SCALEUP. The size of the application has been reduced to fit on a single CD-ROM. The

SCALEUP application was demonstrated to a local middle high school principal and we are currently in the process of making modifications to the application based on some of her feedback. This month, we coordinated with the National Technical Association (NTA) to discuss the possibility of using NTA scientists and engineers as "on-line" experts for the SCALEUP's online discussion forum option. In addition, we completed the database statistics report based on our analysis of the data obtained from users via the ALLSTAR website.

September 1997

Dr. Cesar Levy of FIU and Ms. Crystal Collins of Prime Technologies attended the LTP conference at the NASA Lewis Research Center. Dr. Cesar Levy also made a presentation at the meeting. The meeting covered how projects met classroom access, teaching and learning styles, meeting national standards, and interactivity.

Arrangements were made for the Teachers workshop on October 29th, 1997. We sent messages to principals asking two teachers from each school to attend the workshop.

Dr. Cesar Levy called another ALLSTAR Senior Advisory Group (SAG) meeting on October 30th, 1997. In the meeting we intends to brief the SAG about the progress made in the project since the last meeting on June this year.

The ALLSTAR labels and imprint pens arrived, and samples were sent to contact persons in NASA Ames and Langley.

Material development included: Level 3 material was on-going development with the FIU team creating more shockwave animation files were inserted into the Hydraulics chapter under Principles of Aeronautics - level 3. We contacted the George T. Baker Aviation school at Miami International Airport to provide us with material for career paths in aviation. Mr. Yair Levy had a successful meeting with Doris A. Southern, the school principal.

The MDCC team continued with debugging, editing, refining, expanding and reorganizing their previously uploaded pages. MDCC corrected all graphics/figure numbers and proceeded to defining those graphics that would require development on.

The kiosks at Braddock Senior High and Coral Park Senior High were updated to include the security patch, Level 1, and the Video Gallery. The kiosk at Coral Gables Senior High was vandalized. We contacted the principal to request that the school purchase a new mouse. This was the second time that the ALLSTAR kiosk has been vandalized in this school.

Prime Technologies began the design and implementation of a new graphical user interface (GUI) for the SCALEUP application. The Prime team also researched the possibility of developing a web browser specifically for use with the SCALEUP application. This web browser would be seamlessly integrated with the SCALEUP.

October 1997

The Teachers workshop was held on October 29th, 1997. Twelve middle school teachers, one elementary school teacher and two representative from Dade County Public School Systems' Mathematics & Science division, out of the school superintendent's office in Miami, attended the workshop. Christiy Budenbender provided an overview about LTP and NASA's relationship to the project via telephone. We reviewed Level 1 material and also demonstrated the Teacher Resource Guide, which is under construction and not yet available to the public. We asked the teachers to provide suggestions, comments, and critiques about the Teacher Resource. We also

provided a brief overview and a walk through of Prime Technologies' Front-End software for the Kiosk. The reaction in general was very positive, the teachers liked very much our site. We also demonstrated some of the Level 2 and 3 materials. The comments were very positive and supportive of our work.

The next day on October 30th, 1997, we had very successful ALLSTAR meeting. We briefed Dr. Sam E. Massenberg about the progress of the project since the last meeting in June 1997. The FIU team demonstrated the Level 3 material and The Miami Dade Community College (MDCC) team demonstrated their materials within Level 3 material. Prime Technologies explained about the new scale-up software and the CD that they will produce in the near future.

Material development include Level 3 material that was further developed by the FIU team creating more shockwave animation files to be added to the Hydraulics chapter under Principles of Aeronautics - level 3. We added five other topics to the research area, four from the Spinoff 1996 magazine of National Technology Transfer Center and the other was on the ARMY-NASA Partnership at the Lewis Research Center.

Prime Technologies completed final testing and refining of the SCALEUP application. They are currently in the process of producing the NASA ALLSTAR Careers Exploration CD-ROMS for distribution to trial sites and among the ALLSTAR team. Prime Technologies team members attended the ALLSTAR Teacher Workshop and the project progress and planning meeting. As a result of feedback obtained during these sessions, minor modifications to the kiosk front-end application are planned.

November 1997

Several changes were made based on the feedback received in the Teachers Workshop last month.

Another kiosk was shipped this month to George T. Baker Aviation School. The school belongs to the Dade County Public Schools System and provides shared-time in aviation related programs for high school students and aviation related adult programs for individuals who are 16 years of age and not attending high school. Every day, the school hosts about 500 shared-time high schools students and over 400 adult students.

Material development included the further development of Level 3 material by the FIU team. Several animation files were created. We added another section under Careers - Level 3 featuring George T. Baker Aviation School. Two sections of the Teacher Resource Guide, namely Level 1 and 2, were completed under the Florida's Sunshine State Standards. We worked on the two levels to tie it with the National Standards as well. We covered Level 3 in the Teacher Resource Guide.

Prime Technologies completed the production of the ALLSTAR Network Careers Exploration CD-ROMs. Prime Technologies team members converted the SCALEUP application from version 4.0 of Visual Basic to version 5.0 so that the new graphical user interface (GUI) can be implemented. In addition, modifications were made to the kiosk front-end application to include the ethnicities used by EDCATS.

December 1997

Dr. Cesar Levy and Mr. Yair Levy had a meeting with the university attorney regarding the use of ALLSTAR material by the "The Federal Way School District" over the Internet while charging the students fee. We purchased the new Web Trends Professional Suite Upgrade to have better statistics capabilities.

Another kiosk was shipped this month to David Fairchild Elementary, our only elementary school.

Material development included Level 3 material was under continuous development with the FIU team. More work on the Teacher Resource Guide was completed, under the National Standards topics.

Awards: Exploratorium of San Francisco chose the site as one of its "Ten Cool Sites" for the month. (http://www.exploratorium.edu/learning_studio/cool/invention.html)

On November 16 the Web site was listed in the Miami Herald Business Technology Section under the South Florida Web sites review.

(http://www.herald.com/business/digdocs/020502.htm)

January 1998

Certificates of Attendance for the teachers attending the workshops were created and signed by Dr. Levy, ALLSTAR Project Director and Dr. Massenberg, Office of Education, LARC, representing NASA.

Mr. Yair Levy had two meetings with schools this month for kiosk implementation and one kiosk was shipped this month to Homestead Senior High.

We installed the new WebTrends Professional Suite. The statistics package is running every night. We urge everybody to come and visit the statistics page: http://www.allstar.fiu.edu/_statistics/complete.htm

SOMETHING WAS GOING ON OUT THERE!

We received a big burst of visitors to the website in the last few days of that month, increasing the total monthly hits from around 200K to around 326K.

Material development included continued developing images for the Hydraulics section under Principles Level 3 material. MDCC continued developing materials for the basic aerodynamics and Rocket propulsion sections.

We sent email to several companies about our work hoped to hear from them about interest in marketing our product. We contacted all the major newspapers and TV stations in our area in order to publicize our website, so far to no avail. We contacted the FIU Foundation, the non-profit university fundraising organization to be involved in their fundraising efforts. So far, nothing has come of this effort.

The Prime Technologies team continued to make enhancements to the NASA Career Exploration application (SCALEUP application). Improvements included both upgrading the graphical user interface. The beta version of the NASA Career Exploration was distributed via CD-ROM to team members and selected schools in the Washington, DC metropolitan area for review and feedback. In addition, the Prime Technologies team met with members of the National Society of Black Engineers to demonstrate the SCALEUP application and to identify other possible trial schools in the Washington, DC area.

February 1998

We identified the main constraints associated with the shipment of the kiosks. The schools had problems to provide a pickup truck to carry the table that holds the kiosk. Therefore we made arrangement to rent a pickup truck. Mr. Yair Levy had four meetings with schools this month for kiosk implementation.

One of the schools, Homestead Middle, was very enthusiastic about the ALLSTAR project and requested a special presentation. Mr. Yair Levy provided a two-hour presentation with hands on experiments for the students on February 25th in Homestead. We received positive feedback both from the teachers and students attending the session.

We received two awards this month. One was an article published by www.4kids.org around the nation in local newspapers. The second one is from the Discovery Channel under their School's resources "Understanding: flight – related resources" at:

http://www.school.discovery.com/spring98/programs/understanding-flight/resources.html This honor is important as Understanding Flight will be the subject of a TV broadcast on 2/25/98, 4/1/98, 5/6/98 and 6/10/98.

Also, we found that we were listed under PBS' NOVA program under resources and references in January 98. We were never made aware of these honors by PBS.

http://www.pbs.org/wgbh/nova/supersonic/resources.html

http://www.pbs.org/wgbh/nova/supersonic/references.html

Material development included moving new completed Hydraulics sections under Principles Level 3 material to the public access site. We added a section about the F-15E Strike Eagle with permission from the 90th Fighter Squadron.

Prime Technologies presented the enhanced version of the NASA Careers Exploration application (SCALEUP) as part of the Seventh Annual National Conference of the QEM (Quality Education for Minorities) Mathematics, Science, and Engineering Network. The enhanced SCALEUP application was also demonstrated in a workshop during the Maryland Mathematics, Engineering, Science Achievement (MESA) Program's annual Pre-college Career Fair. In addition, the Prime team began development of the web-based Learning Laboratory section of the SCALEUP application. The options in this section will include a link to the FIU ALLSTAR web site, a discussion forum and a section highlighting Blacks in Aviation.

March 1998

The shipment of the kiosks to Dade County Public Schools System schools went according to schedule. We delivered the last six kiosks during the first week and a half of the month.

Mr. Yair Levy attended the Sprint Internet World '98 conference on March 9-13 in Los Angeles, California. Among the various information he collected, is an upgrade to our statistics package allowing us to better customize the monthly reports.

Dr. Cesar Levy and Mr. Jay K. Jeffries attended and manned a booth in the NCASE '98 conference on March 25-28, St. Louis, Missouri. Over 850 people attended the conference. Dr. Levy and Mr. Jeffries advertised and demonstrated the website. All were very enthusiastic and supportive about our efforts and our product to enhance the aeronautical education in our country.

We answered about 80 e-mails regarding questions, comments, and concerns sent by students, teachers, and other users visiting the website.

Material development included finishing the Hydraulics section under Principles Level 3 material. All the material was up and running on the public access site. (We finished on schedule as we promised!). We completed the National Science Standards portion of the Teachers' Guide. It is keyed by Science principles and by grade levels K-4, 5-8, 9-12 (based on level 2). We continued to make constant changes and fix typographical errors to the website, mainly based on visitors' comments.

Prime Technologies completed the development of the ALLSTAR Discussion Forum. The Discussion Forum is a part of the ALLSTAR Learning Laboratory Web Site (http://www.prime-tech.com/allstar/) where students can interact with ALLSTAR Mentors by asking questions related to various Aeronautics and Aviation topics. Several scientists were registered as ALLSTAR Mentors. The Blacks In Aviation (BIA) section of the Learning Laboratory was also brought on-line. Blacks In Aviation highlights the contributions of African-Americans to the field of aviation.

MDCC awaits the addition of pictures to existing MDCC created files on propulsion that are on the beta site.

April 1998

Yair Levy and Paul Dunn attended and manned a booth in the NSTA '98 conference on April 16-19, Las Vegas, Nevada. Over 15000 people attended the conference. Yair Levy and Paul Dunn provided two onsite workshop on Friday April 17,1998. They demonstrated the website along with the Teachers Resource Guide. All were very enthusiastic and supportive about our efforts and our product to enhance aeronautical education around the nation via the Internet.

We answered about 100 e-mails regarding questions, comments, and concerns sent by students, teachers, and other users visiting the website.

We added a section in which we feature school systems, teachers, students, and individuals using our website. This section can be viewed at: http://www.allstar.fiu.edu/aero/sch_using.htm

New use has been made of Java script on our website to demonstrate a "hot word" in the text, enabling us to show animations when moving the mouse over the "hot word". We use it to demonstrate the basics of aerodynamics and fluid dynamics in incompressible flow around a cylinder and a wing section.

Material development included a new Picture Gallery of NASA's F-Series Aircraft, taken from Dryden. We continued developing the Teachers Resource Guide. We continued to make constant changes and fix typographical errors to the website, mainly based on visitors' comments.

Prime Technologies activated and tested the question and answer section of the ALLSTAR Learning Laboratory (http://www.prime-tech.com/allstar/Discuss.htm).

MDCC continued to develop material for Level 3 – Principles of Aeronautics. Several new sections were uploaded to their beta site under the chapter of Theory of Flight dealing with Flight Instruments and Navigational Systems. The text for Flight Instruments was completed.

May 1998

The ALLSTAR yearly meeting has been set for June 24th, 1998. We will demonstrate the progress we have made in the last year since our last semi-annual meeting (October, 1997). This will include the growth we have shown in the number of hits to the site as well as the new updates to the site.

The MDCC team met with Dr. Cesar Levy to finalize their efforts on the ALLSTAR Project. The determination was to complete the materials listed on the Level 3 principles portion of the MDCC site on the Theory of Flight.

Mr. Yair Levy made a presentation to the South Dade Aerospace Education Symposium at the Homestead Air Force Reserve base on May 8th. The audience consisted of school principals, educators, Dade County Public School Systems representatives, as well as John W. DeMilly, Jr. Chapter #385 of the Air Force Association members.

We answered about 100 e-mails regarding questions, comments, and concerns sent by students, teachers, and other users visiting the website.

Material development included more work on upgrading Level 3. Adding more pictures to an existing text before moving it to the public access site. We also continued developing the Teachers Resource Guide. We continued to make constant changes and fix typographical errors to the website, mainly based on visitors' comments.

Prime Technologies continued the development of the ALLSTAR Learning Laboratory web site. The Future of Aviation and Aerospace Technology section was completed. In addition, the development team researched ways in which the performance of the enhanced NASA Careers Exploration application (SCALEUP) could be improved. Modifications were made to the application based on the research findings.

The enhanced SCALEUP application was demonstrated to students and teachers participating in a youth program, called S.M.A.R.T., at the National Air and Space Museum. The application was installed at the first trial site, Wakefield High School in Arlington, Virginia.

MDCC finished the text for the pages dealing with the Flight Instruments and Navigation Aids pages.

June 1998

The ALLSTAR yearly met on June 24th, 1998. We presented the progress we have made in the last year since our last annual meeting to Dr. Sam Massenberg from Langley and Christiy Budenbender from Ames.

We collected the database files from the kiosks across Dade County and sent them to Prime Technologies for interpretation. The results were displayed in the meeting.

Dr. Cesar Levy attended and exhibited in the Southeast Florida Aviation Consortium (SEFAC) on Friday June 26th in Ft. Lauderdale.

The no-cost extension was submitted and approved by NASA.

Material development included more work on finishing Level 3. We continued to make adjust and correct typographical errors to the website, mainly based on visitors' comments. MDCC finished its flight performance and flight instruments portion of the web and they presented their additions to level 3 of the ALLSTAR Project at the meeting.

Prime Technologies began the production of the ALLSTAR Careers Exploration, Pre-Release Version 1.5 CD-ROMs (SCALEUP application). In addition, the Prime team completed kiosk usage statistics reports for twelve (12) schools based on our analysis of the data obtained

from the ALLSTAR kiosks. Prime Technologies has also added demonstrations of the ALLSTAR Learning Lab web site (including the Discussion Forum and Blacks in Aviation) to PRIME, Inc. This is a Philadelphia based, non-profit organization, which runs science and technology program in 90 schools throughout the city of Philadelphia. Based upon on-going discussions, PRIME, Inc. plans to distribute pre-trial versions of the CD-ROM to selected schools in Philadelphia.

July 1998

On 28 July 98 permission was granted from P&W to use certain materials that were distributed at the Southeast Florida Aviation Consortium (SEFAC) conference on Friday June 26th in Ft. Lauderdale.

Paul Dunn has used the website in the Summer FLAME (Florida Action for Minorities in Engineering) program and an increase in the number of hits to the website has been observed.

We sent about 100 flyers and labels to Phyllis Griggs at RSPAC to promote our project at the Leaders of Learning Conference August 2-4 in Charleston, WV. We also sent out about 100 flyers, labels and pens to a school district in CA for their career fair.

This month we answered over 100 e-mails regarding questions, comments, and concerns sent by students, teachers, and other users visiting the website. We have continued editing and adding new graphics to the Flight Performance material - Level 3. The new material was uploaded to the public access site. We created a section on the Junkers W33L "Bremen", including images of the Junkers aircraft. Judy Conlon contributed a new section under the research from NASA HPCC's Insights Magazine "Striving for Peak Design".

We continue to adjust and correct typographical errors to the website, mainly based on visitors' comments. Currently we're working on uploading a new section under Weather or Flight Environment, which should be uploaded to the public site by mid August 1998. Also we've formed a section on TakeOff and Landing that was donated by Mr. Wayne Olson, a retired aeronautical engineer working at Edwards Air Force base. We conducted research on the use of the website and its effect in attracting students to the aeronautics field. We concentrated heavily on the minorities' results from the whole sample size.

During the month of July, Prime Technologies continued the production of the ALLSTAR Careers Exploration, Pre-Release Version 1.5 CD-ROMs (SCALEUP application). An additional trial site for the CD-ROM was established at the Eaton Fundamental School in Hampton, Virginia. Members of NASA Langley Research Center's Technology and Distance Learning Team conducted an extensive review of the Pre-Release CD-ROM and provided comments and feedback on each section. Over all, the team concluded that a CD-ROM dealing with the careers available through NASA and the importance of education is much needed. The CD-ROM was also distributed to Rafaela Schwan (Program Coordinator, Langley Aerospace Research Summer Scholars (LARSS) Program) for review and distribution to pre-college organizations affiliated with LaRC. In addition, the Prime team performed routine administration and maintenance of the ALLSTAR Learning Laboratory.

During the month of July we received three awards:

- 1. U.S. Wings Gold Site Award http://www.uswings.com/
- 2. Top 5% On the Web Interplane Award http://www.inter-plane.com/

3. I, Cringely's "I Like It" page - http://www.pbs.org/cringely/ilike.html
("I, Cringely" is a collaborative effort between Robert X. Cringely, PBS Online, Oregon
Public Broadcasting, and Lucid Dreams, Inc.)

Summary of Accomplishments to Date

- Over 750 web pages on the site (more are uploading after review almost every few days)
- Levels 1, 2 and 3 materials up and running
- Three galleries of pictures and one video gallery
- A Teacher Resource Guide tied to National Science Standards and Florida Sunshine State Standards
- Over 100 biographies of aviators, engineers and pioneers in the area of aeronautics
- Highlight eleven research topics taking place in NASA centers across the nation and also provide a forum for private, innovative research
- A discussion forum answered by mentors
- Established a section about Blacks in Aviation and their contribution to the aeronautics development
- Added one kiosk to those promised in the proposal. All thirteen kiosks in public schools around Miami-Dade county are up and running.
- Provided workshop for local teachers and two workshops at the NSTA convention
- Provided several presentations to schools educators (FIU team and Prime Technologies)
- Attended several National conferences related to Science, Engineering, Aeronautics (FIU team and Prime Technologies)
- Attended Internet related conventions and conferences to bring new ideas and technological innovations to the project
- Received eleven awards and site recognition from local and national organization, such as Study Web, Discovery Channel, 4kids.org, PBS, Nova Online, National Academy Press, Exploratorium of San Francisco, and The Miami Herald.
- Completed survey to users (which we intend to explore in more detail in the next fiscal year)
- More than 2.9 million hits since June 1997
- Transferring over 31 GB since June 1997
- Over 135,000 unique IP addresses
- More than 94% of users are coming back to the site more than one month

Attached please find the Kiosks report redacted by Prime Technologies.

NASA ALLSTAR Yearly Statistics

Month	Unique IPs	Kb Trans	Total Hits
Jun-1997	883	162,359	17,960
Jul-1997	2,273	713,216	58,222
Aug-1997	2,423	606,436	56,634
Sep-1997	3,608	864,130	79,535
Oct-1997	8,048	1,760,405	163,427
Nov-1997	10,596	2,190,403	204,805
Dec-1997	16,338	3,399,139	322,806
Jan-1998	13,832	3,450,041	326,049
Feb-1998	13,722	3,077,665	318,999
Mar-1998	14,703	3,593,368	360,082
Apr-1998	17,179	4,127,244	377,989
May-1998	18,088	4,187,209	405,516
Total	121,693	28,131,615	2,692,024
Average/mo	10,141	2,344,301	224,335
Yearly Jun-1997 to May-1998	115,081	26,806,411	2,556,542
Average/mo	9,590	2,233,868	213,045
Jun-1998	13,086	2,694,591	259,221
July-1998	16,307	3,275,862	299,037

Special Thanks

Dr. Massenberg, Director, Office of Education, LaRC, has been very supportive of our effort. We would also like to thank Mark Leon, Christiy Budenbender and the other CAN Principal Investigators for their input and comments.